

What is claimed is:

1. A network-storage apparatus for high-speed streaming data transmission through a network, the network-storage apparatus processing the streaming data for a plurality of disc storages of an Internet server computer system and a network apparatus, the apparatus comprising:

an internal peripheral device bus separated from a peripheral device bus outside the network-storage apparatus, for transmitting data between devices inside the network-storage apparatus;

a peripheral device bus bridge for transferring bus transaction from a host processor to the internal peripheral device bus and transferring bus transaction for a host processor executing inside the network-storage apparatus or a main memory to a bus bridge;

a disk controller for controlling a plurality of disc storage connected to the network-storage apparatus and managing reading and writing data from and to the disc storage;

a peripheral memory for storing transmitted data between the disc storage and the network;

a peripheral memory controller for controlling the peripheral memory and storing or outputting the transmitted data between the disc storage and the network; and

a TOE for reading data to be transmitted to the network from the peripheral memory, constructing the data in the form of

a packet, transmitting the packet to the network, and storing the data received from the network in the peripheral memory through the peripheral memory controller.

5           2.    The apparatus of claim 1, wherein the peripheral device bus is a PCI bus and the peripheral device bus bridge roles a PCI bridge.

10           3.    The apparatus of claim 1, wherein the disk controller is connected to a plurality of disc storages in parallel through a disk interface bus and accesses to the data in a pipeline manner.

15           4.    The apparatus of claim 1, wherein the disk controller reads and writes data from and to a plurality of disc storages in a stripping manner.

20           5.    The apparatus of claim 1, wherein the peripheral memory controller constructs a memory table so as to cache data transmitted from and to the network.

25           6.    The apparatus of claim 1, wherein the peripheral memory controller is provided a register for indicating size of the peripheral memory inside the peripheral memory controller, and transmits a great deal of data in a DMA manner.

7. The apparatus of claim 1, wherein the peripheral memory controller deletes contents of a memory table thereof when finishing accessing to the peripheral memory.

5 8. The apparatus of claim 1, wherein the TOE creates a DSB table having information on packet data to be transferred to the disk immediately among data packets received from the network, transmitting a data packet to the peripheral memory to store the data packet if the data packet storable in the disk  
10 has information matching DSB, and transmitting a data packet to a general network stack otherwise.

9. The apparatus of claim 1, wherein the TOE reads data to be transmitted to the network from the peripheral memory,  
15 constructs the data in the form of a packet and transfers the data packet to the network when the data to be transmitted is stored in the peripheral memory and the TOE receives a data transmission instruction from a host processor.